S. Goldstein and Associates
consulting actuaries

JUDGES' RETIREMENT SYSTEM
OF ILLINOIS

ACTUARIAL VALUATION
AS OF JUNE 30, 1990

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consulting actuaries

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September 28, 1990

Board of Trustees
Judges' Retirement System of Illinois
2101 South Veterans Parkway
P.O. Box 19255
Springfield, Illinois 62794

Re: Actuarial Valuation As Of June 30, 1990

Gentlemen:

I am pleased to submit my actuarial report on the financial position and funding requirements of the Judges' Retirement System of Illinois based on the actuarial valuation as of June 30, 1990.

The report consists of 12 Sections and 2 Appendices as follows:

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I would be pleased to discuss any aspects of this report with you and other interested persons.

Respectfully submitted,

Sandor Goldstein

Sandor Goldstein
Fellow of the Society of Actuaries
Enrolled Actuary No. 3402

A. PURPOSE AND SUMMARY

We have carried out an actuarial valuation of the Judges' Retirement System of Illinois as of June 30, 1990. The purpose of the valuation was to determine the financial position and funding requirements of the retirement system. This report is intended to present the results of the valuation. The results are summarized below:

1.	Total actuarial liability	$	366,116,393
2.	Actuarial value of assets		166,984,434
3.	Unfunded actuarial liability		199,131,959
4.	Funded Ratio		45.6%
5.	Employer FY 91 funding requirement of normal cost plus amount required to pay off unfunded liability over 40 years as a level percent of payroll	$	17,584,105
6.	Employer contribution requirement for FY 92 under Public Act 86-0273	$	13,160,000
7.	Actuarial present value of credited projected benefits	$	366,116,393

B. DATA USED FOR THE VALUATION

Participant Data. The participant data required to carry out the valuation was supplied by the retirement system. The membership of the system as of June 30, 1990 on which the valuation was based is summarized in Exhibit 1. It can be seen that there were 827 active members, 353 members receiving retirement annuities, and 245 members receiving survivor's annuities included in the valuation. The total active payroll as of June 30, 1990 was $64,670,416.

Exhibit 1

Summary of Membership Data

1.	Number of Members.		
	(a) Active Members		827
	(b) Members Receiving		
	(i) Retirement Annuities		353
	(ii) Survivor's Annuities		245
	(c) Inactive Members		22
2.	Annual Salaries		
	(a) Total Salary	$	64,670,416
	(b) Average Salary		78,199
3.	Total Accumulated Employee Contributions of Active Members	$	50,788,720
4.	Annual Annuity Payments		
	(a) Retirement Annuities	$	15,845,467
	(b) Survivor's Annuities		4,117,935

<u>Assets.</u> The asset value used for the valuation were based on the assets information contained in the statement of assets as of June 30, 1990 prepared by the system. For purposes of the valuation, the book value of the assets of the system (assets valued at cost), less the amount of liabilities, was used. The resulting actuarial value of assets was $166,984,434. The development of this value is outlined in Exhibit 2.

For the last actuarial valuation, the book value of the assets of the system, less the amount of liabilities, was adjusted by the average excess of the market value of assets over the book value of assets of the system as of the last three year ends. We have estimated that the change made in the method used to determine the actuarial value of assets for the current valuation resulted in a decrease in the actuarial value of assets of $13,898,914.

Exhibit 2

Actuarial value of Assets

1.	Cash	$ 3,828,060
2.	Receivables	173,967
3.	Investments - Held in the Illinois State Board of Investment Commingled Fund, at Cost	163,122,923
4.	Property and Equipment	26,585
5.	Total Assets	$167,151,535
6.	Liabilities	167,101
7.	Actuarial Value of Assets (5-6)	$166,984,434

C. RETIREMENT SYSTEM PROVISIONS

The regular actuarial valuation was based on the provisions of the retirement system in effect as of June 30, 1990 as provided in Article 18 of the Illinois Pension Code. A summary of the principal provisions of the system in effect as of June 30, 1990 is provided in Appendix 1.

Senate Bill 95 which was signed into law on August 23, 1989 as Public Act 86-0273 made a number of significant changes in the provisions of the system. The major benefit changes enacted Public Act 86-0273 are as follows:

(1) Provides that the 3% automatic annual increase in retirement annuity shall be based on the current amount of annuity instead of the original amount of annuity.

(2) Provides for 3% automatic annual increases in surviving spouse's annuities, based on the current amount of annuity.

The benefit changes enacted under Public Act 86-0273 were taken into account in the June 30, 1990 actuarial valuation.

D. ACTUARIAL ASSUMPTIONS AND COST METHOD

Actuarial Assumptions

The actuarial assumptions used for the June 30, 1990 actuarial valuation are the same as the actuarial assumptions used for the June 30, 1989 valuation. These actuarial assumptions were based on an experience analysis of the retirement system for the period 1984 through 1987. The major actuarial assumptions used for the current valuation are summarized below:

Mortality Rates. The UP-1984 Mortality Table was used for the valuation.

Termination Rates. Termination rates based on the recent experience of the system were used. The following is a sample of the termination rates that were used:

Age	Rate of Termination
30	.054
35	.030
40	.012
45	.045
50	.003
55	.000

Disability Rates. Disability rates based on the recent experience of the system as well as on published disability rate tables were used. The following is a sample of the disability rates that were used for the valuation:

Age	Rate of Disability
30	.00057
35	.00064
40	.00083
45	.00115
50	.00170

Retirement Rates. Rates of retirement for each age from 55 to 75 based on the recent experience of the system were used. The following are samples of the rates of retirement that were used:

Age	Rate of Retirement
55	.04
60	.10
65	.05
70	.10
75	1.00

The above retirement rates are equivalent to an average retirement age of approximately 66.

Salary Increase. A salary increase assumption of 6.0% per year, compounded annually, was used.

Interest Rate. An interest rate assumption of 8.0% per year, compounded annually, was used.

Marital Status. It was assumed that 75% of active members will be married at the time of retirement.

Spouse's Age. The age of the spouse was assumed to be 4 years younger than the age of the employee.

Actuarial Cost Method

The projected unit credit actuarial cost method was used for the June 30, 1990 valuation. Actuarial gains and losses are reflected in the unfunded actuarial liability. This is the same actuarial cost method that was used for the June 30, 1989 valuation.

E. ACTUARIAL LIABILITY

The actuarial liability as determined under the valuation for the various classes of members is summarized in Exhibit 3. The total actuarial liability is then compared with the actuarial value of assets in order to arrive at the unfunded actuarial liability. (The actuarial terms used in this report are defined in Appendix 2).

As of June 30, 1990, the total actuarial liability is $366,116,393, the actuarial value of assets is $166,984,434, and the unfunded actuarial liability is $199,131,959. The ratio of the actuarial value of assets to the actuarial liability, or funded ratio, is 45.6%.

We have estimated that the benefit changes enacted under Public Act 86-0273 resulted in an increase in the actuarial liability for members receiving benefits of $16,937,204, for active members of $12,761,580, and for inactive members of $372,810. The total increase in the actuarial liability as a result of the benefit changes enacted under Public Act 86-0273 is therefore estimated to be $30,071,594.

Exhibit 3

Actuarial Liability As of June 30, 1990

1.	**Actuarial Liability For Active Members**	
(a)	Basic retirement annuity	$ 102,764,317
(b)	Annual increase in retirement annuity	23,684,089
(c)	Pre-retirement survivor's annuity	23,324,065
(d)	Post-retirement survivor's annuity	21,842,953
(e)	Withdrawal benefits	978,486
(f)	Disability benefits	1,129,036
(g)	Total	$ 173,722,946
2.	**Actuarial Liability For Members Receiving Benefits**	
(a)	Retirement annuities	$ 149,803,290
(b)	Survivor annuities	36,148,862
(c)	Total	$ 185,952,152
3.	**Actuarial Liability For Inactive Members**	$ 6,441,295
4.	**Total Actuarial Liability**	$ 366,116,393
5.	**Actuarial Value of Assets**	$ 166,984,434
6.	**Unfunded Actuarial Liability**	$ 199,131,959
7.	**Funded Ratio**	45.6%

F. EMPLOYER'S NORMAL COST

The employer's share of the normal cost for the year beginning July 1, 1990 is developed in Exhibit 4. For the year beginning July 1, 1990, the total normal cost is determined to be $16,222,708, employee contributions are estimated to be $7,113,746, resulting in the employer's share of the normal cost of $9,108,962.

Based on a payroll of $64,670,416, the employer's share of the normal cost can be expressed as 14.09% of payroll.

We have estimated that the benefit changes enacted under Public-Act 86-0273 had the impact of increasing the total normal cost by $1,210,823, or 1.87% of payroll.

Exhibit 4

Employer's Normal Cost For Year Beginning July 1, 1990

		Dollar Amount	Per Cent of Payroll
1.	Basic retirement annuity	$ 9,327,184	14.42%
2.	Annual increase in retirement annuity	2,196,230	3.40
3.	Pre-retirement survivor's annuity	2,462,301	3.81
4.	Post-retirement survivor's annuity	1,756,423	2.72
5.	Withdrawal benefits	155,407	.24
6.	Disability benefits	135,603	.21
7.	Administrative expenses	189,560	.29
8.	Total normal cost	$16,222,708	25.09%
9.	Employee contributions	7,113,746	11.00
10.	Employer's share of normal cost	$ 9,108,962	14.09%

Note. The above figures are based on total active payroll of $64,670,416 as of June 30, 1990.

G. EMPLOYER'S FUNDING REQUIREMENT FOR YEAR BEGINNING JULY 1, 1990

Public Act 86-0273 enacted a funding plan for the system under which, starting with Fiscal Year 1990, the State's contribution shall be increased incrementally over a 7 year period so that by Fiscal Year 1996, the minimum State contribution shall be an amount that, when added to other sources of employer contribution is sufficient to meet the normal cost and amortize the unfunded liability over 40 years as a level percent of payroll, determined under the projected unit credit actuarial cost method.

Thus, Public Act 86-0273 has legislated the funding requirement for the system to be normal cost plus 40 years as a level percent of payroll amortization of the unfunded liability (after the completion of the phase-in period).

We have therefore determined an employer funding requirement for the year beginning July 1, 1990 based on the normal cost plus 40 year level percent of payroll amortization of the unfunded liability. Although the phase-in period provided in Public Act 86-0273 will not be complete until Fiscal Year 1996, this calculation provides a measure of the required State contributions for the year beginning July 1, 1990 under this approach in the absence of a phase-in period.

The employer's funding requirement of normal cost plus the amount required to amortize the unfunded liability over 40 years at a level percent of payroll is developed in Exhibit 5. It can be seen from Exhibit 5 that for the year beginning July 1, 1990, the employer funding requirement of normal cost plus the amount required to amortize the unfunded liability over 40 years as a level percent of payroll amounts to $17,584,105. Actual employer contributions for the year are estimated to amount to $10,657,400. Thus, employer contributions for the year are expected to fall short of meeting the employer funding requirement determined under this basis by $6,926,705. This deficiency in employer contributions can be expressed as 10.71% of payroll.

Exhibit 5

Funding Requirement For Year Beginning July 1, 1990

1.	Employer's share of normal cost	$ 9,108,962
2.	Amount required to amortize the unfunded liability over 40 years as a level percent of payroll	8,475,143
3.	Employer's total funding requirement (1+2)	$ 17,584,105
4.	Estimated employer contribution for the year	$ 10,657,400
5.	Estimated amount by which employer contributions are expected to fall short of meeting the funding requirement (3-4)	$ 6,926,705

H. STATE APPROPRIATION REQUIREMENTS FOR FISCAL YEARS 1992-1996

Senate Bill 95 which was signed into law on August 23, 1989 as Public Act 86-0273 enacted the following funding plan for the system:

"Starting with the fiscal year which ends in 1990, the State's contribution shall be increased incrementally over a 7 year period so that by the fiscal year which ends in 1996, the minimum contribution to be made by the State shall be an amount that, when added to other sources of employer contributions, is sufficient to meet the normal cost and amortize the unfunded liability over 40 years as a level percentage of payroll, determined under the projected unit credit actuarial cost method. The State contribution, as a percentage of the applicable employee payroll, shall be increased in equal annual increments over the 7 year period until the funding requirement specified above is met."

Based on the June 30, 1990 actuarial valuation, we have determined the required contributions under this plan for Fiscal Years 1992-1996. The required contribution rates and amount are as follows:

Fiscal Year	Normal Cost	Amortization of Unfunded Liability	Total Required Rate	Assumed Payroll	Total Required Contributions
1992	14.09%	5.29%	19.38%	67,904,000	13,160,000
1993	14.09%	8.19%	22.28%	71,299,000	15,885,000
1994	14.09%	11.09%	25.18%	74,864,000	18,851,000
1995	14.09%	13.99%	28.08%	78,607,000	22,073,000
1996	14.09%	16.89%	30.98%	82,538,000	25,570,000

The contribution requirements are shown on a gross basis. The regular State appropriation requirement can be determined by adjusting for State Pension Fund appropriations and other sources of employer contributions.

The contribution requirements shown above have been determined using the actuarial assumptions and membership data that were used for the regular June 30, 1990 actuarial valuation. In order to determine the projected contribution rates and amounts, the following additional assumptions and estimates were used:

1. Total payroll of $64,670,416 for Fiscal Year 1991.
2. Assumed increase in total payroll of 5% per year.
3. Total employer contributions of $10,657,400 for Fiscal Year 1991.

Method of Calculation

The above contribution rates were determined in the following manner:

The projected unit credit actuarial cost method was used. The difference between the total Fiscal Year 1991 appropriation and the required normal cost for Fiscal Year 1991 was considered the 1991 amortization payment, and this payment was converted to a percentage of the expected 1991 payroll. An amortization schedule was then determined using the following approach:

1. The unfunded actuarial liability existing as of June 30, 1990 was determined to be $199,131,959.

2. Amortization rates for Fiscal Years 1992-1996 were determined in such a manner that the rate for any one year would exceed the rate for the previous year by a uniform percentage of payroll.

3. The amortization rates for Fiscal Years 1996-2035 would be a uniform percentage of payroll.

The normal cost rate calculated on the basis of the June 30, 1990 valuation was assumed to remain unchanged for future years at 14.09% of payroll.

In the future, amortization schedules will be revised on the assumption that the amortization will be completed by June 30, 2035, that the rates for Fiscal Years after 1995 will be a uniform percentage of payroll, and that 1992-1996 is a phase-in period. There will be no phase-in period for changes in normal cost.

I. RECONCILIATION OF CHANGE IN UNFUNDED LIABILITY

The net actuarial experience during the period July 1, 1989 to June 30, 1990 resulted in an increase in the system's unfunded actuarial liability of $48,349,963. This increase in unfunded liability is a result of several kinds of gains and losses is illustrated in Exhibit 6.

The employer funding requirement for the year of normal cost plus interest on the unfunded actuarial liability amounted to $19,518,963, whereas the actual employer contribution for the year amounted to $10,657,400. Thus, the employer contribution for the year fell short of meeting normal cost plus interest on the unfunded liability by $8,861,563. Had all aspects of the system's experience been in line with the actuarial assumptions, the unfunded liability would have increased by this amount.

The change in the method of determining the actuarial value of assets increased the unfunded liability by $13,898,914. The benefit changes enacted under Public Act 86-0273 resulted in an increase in the unfunded liability of $30,071,594.

The net rate of investment return earned by the assets of the system, based on assets valued at cost, was approximately 9.1% in comparison with the assumed rate of investment return of 8.0%. This resulted in a decrease in the unfunded liability of $1,623,709. The average salary for the year remained approximately the same as for the previous year, in comparison with an assumed rate of increase of 6.0% per year, resulting in a decrease in the unfunded liability of $7,810,598.

The various other aspects of the system's experience resulted in a net increase in the unfunded liability of $4,952,199.

The aggregate financial experience of the system resulted in an increase in the unfunded liability of $48,349,963.

Exhibit 6

Reconciliation of Change in Unfunded Liability
Over the Period July 1, 1989 to June 30, 1990

1.	Unfunded actuarial liability as of 7/1/89	$ 150,781,996
2.	Employer contribution requirement of normal cost plus interest on the unfunded liability for the period 7/1/89 to 6/30/90	19,518,963
3.	Actual employer contribution for the year	10,657,400
4.	Increase in unfunded liability due to employer contributions being less than normal cost plus interest on unfunded liability	8,861,563
5.	Increase in unfunded liability due to change in method of determining actuarial value of assets	13,898,914
6.	Increase in unfunded liability due to benefit increases enacted under Public Act 86-0273	30,071,594
7.	Decrease in unfunded liability due to investment return greater than assumed	1,623,709
8.	Decrease in unfunded liability due to salary increases lower than assumed	7,810,598
9.	Increase in unfunded liability due to other sources	4,952,199
10.	Net increase in unfunded liability for the year (4+5+6+9-7-8)	$ 48,349,963
11.	Unfunded actuarial liability as of 6/30/90 (1+10)	$ 199,131,959

J. ACTUARIAL PRESENT VALUE OF CREDITED PROJECTED BENEFITS

Governmental Accounting Standards Board (GASB) Statement No. 5, entitled Disclosure of Pension Information by Public employee Retirement Systems and State and Local Governmental Employers, establishes standards of disclosure of pension information by public employee retirement systems.

GASB Statement No. 5 requires the disclosure of the actuarial present value of credited projected benefits as the standardized measure of the accrued pension obligation. This measaure represents the discounted value of the amount of benefits estimated to be payable in the future as a result of employee service to date, computed by attributing an equal bernefit amount to each year of service of the employee.

In Exhibit 7, we have shown the actuarial present value of credited projected benefits in the format prescribed in GASB Statement No. 5. It can be seen that the total actuarial present value of credited projected benefits of $366,116,393 is the same as the total actuarial liability under the projected unit credit actuarial cost method.

We have estimated that the benefit changes enacted under Public Act 86-0273 had the effect of increasing the actuarial present value of credited projected benefits by $30,071,594.

Exhibit 7

Actuarial Present Value of Credited Projected Benefits

1.	For members in receipt of benefits and for inactive members	$ 192,393,447
2	For current employees	
	Accumulated employee contributions	50,788,720
	Employer-financed vested	73,014,185
	Employer-financed nonvested	49,920,041
3.	Total actuarial present value of credited projected benefits	$ 366,116,393
4.	Net assets available for benefits, at cost (Market value is $184,534,235)	$ 166,984,434
5.	Unfunded actuarial present value of credited projected benefits	$ 199,131,959

K. TWENTY YEAR PROJECTION OF COSTS AND LIABILITIES

Based on the results of the June 30, 1990 valuation and using the actuarial assumptions used for the valuation, we have projected valuation results for a 20 year period commencing with Fiscal Year 1991. Projections were done under the following alternative basis for determining State contributions to the system:

Basis 1. State contributions are based on the funding requirements of Public Act 86-0273.

Basis 2. State contributions are based on 45% of total benefit payout. For the last year in which State contributions were determined on the basis of payout, this was the approximate relation between State contributions and total benefit payout.

We have also assumed that the total payroll would increase at the rate of 5% per year. The results of our projections are shown in Exhibits 8 and 9.

L. CERTIFICATION

This actuarial report has been prepared in accordance with generally accepted actuarial principles and practices and to the best of my knowledge, fairly represents the financial condition of the Judges Retirement System of Illinois as of June 30, 1990.

Respectfully submitted

Sandor Goldstein

Sandor Goldstein
Fellow of the Society of Actuaries
Enrolled Actuary 3402

EXHIBIT 8

JUDGES RETIREMENT SYSTEM OF ILLINOIS
TWENTY YEAR PROJECTION OF COSTS AND LIABILITIES
(Assumes State Contributions Are Based on Public Act 86-0273)
(All Dollar Amounts in Millions)

	Fiscal Year Ending 6/30							
	1991	1992	1993	1994	1995	2000	2005	2010
BASIC DATA								
1. Number of Active Members	827	827	827	827	827	827	827	827
2. Expected Total Payroll	$ 64.7	$ 67.9	$ 71.3	$ 74.9	$ 78.6	$100.3	$128.0	$ 163.4
VALUATION RESULTS								
3. Actuarial Liability	$389.6	$414.7	$441.5	$470.2	$501.3	$691.5	$950.8	$1287.3
(Retired Lives Reserved)	(181.4)	(193.1)	(205.6)	(219.0)	(233.5)	(322.2)	(433.0)	(599.7)
4. Assets (Book)	$177.1	$189.9	$205.5	$224.6	$247.7	$409.8	$646.3	$ 978.6
5. Unfunded Actuarial Liability	$212.5	$224.8	$236.0	$245.6	$253.6	$281.7	$304.5	$ 308.7
(Funded Percentage)	(45.5)	(45.8)	(46.6)	(47.8)	(49.4)	(59.3)	(68.0)	(76.0)
6. Annual Normal Cost								
(a) Total	$ 16.2	$ 17.0	$ 17.9	$ 18.8	$ 19.7	$ 25.2	$ 32.1	$ 41.0
(b) Employee Contributions	7.1	7.5	7.8	8.2	8.6	11.0	14.1	18.0
(c) Employers Share	9.1	9.5	10.1	10.6	11.1	14.2	18.0	23.0
(% of Total Payroll)	(14.09)	(14.09)	(14.09)	(14.09)	(14.09)	(14.09)	(14.09)	(14.09)
7. State Contribution*	$ 10.7	$ 13.2	$ 15.9	$ 18.9	$ 22.1	$ 31.1	$ 39.7	$ 50.6
(% of Total Payroll)	(16.48)	(19.38)	(22.28)	(25.18)	(28.08)	(30.98)	(30.98)	(30.98)
8. Estimated Benefit Payout	$ 20.2	$ 21.2	$ 22.5	$ 23.8	$ 24.9	$ 33.6	$ 45.7	$ 63.5

* State Contributions are based on the funding requirements of Public Act 86-0273.

EXHIBIT 9

JUDGES RETIREMENT SYSTEM OF ILLINOIS
TWENTY YEAR PROJECTION OF COSTS AND LIABILITIES
(Assumes State Contribution Equals to 51% of Benefit Payments)
(All Dollar Amounts in Millions)

	Fiscal Year Ending 6/30							
	1991	1992	1993	1994	1995	2000	2005	2010
BASIC DATA								
1. Number of Active Members	827	827	827	827	827	827	827	827
2. Expected Total Payroll	$ 64.7	$ 67.9	$ 71.3	$ 74.9	$ 78.6	$100.3	$128.0	$ 163.4
VALUATION RESULTS								
3. Actuarial Liability	$389.6	$414.7	$441.5	$470.2	$501.3	$691.5	$950.8	$1287.3
(Retired Lives Reserved)	(181.4)	(193.1)	(205.6)	(219.0)	(233.5)	(322.2)	(433.0)	(599.7)
4. Assets (Book)	$177.1	$186.2	$195.5	$205.3	$215.5	$272.3	$335.4	$ 394.7
5. Unfunded Actuarial Liability	$212.5	$228.5	$246.0	$264.9	$285.8	$419.2	$615.4	$ 892.6
(Funded Percentage)	(45.5)	(44.9)	(44.3)	(43.7)	(43.0)	(39.4)	(35.3)	(30.7)
6. Annual Normal Cost								
(a) Total	$ 16.2	$ 17.0	$ 17.9	$ 18.8	$ 19.7	$ 25.2	$ 32.1	$ 41.0
(b) Employee Contributions	7.1	7.5	7.8	8.2	8.6	11.0	14.1	18.0
(c) Employers Share	9.1	9.5	10.1	10.6	11.1	14.2	18.0	23.0
(% of Total Payroll)	(14.09)	(14.09)	(14.09)	(14.09)	(14.09)	(14.09)	(14.09)	(14.09)
7. State Contribution*	$ 10.7	$ 9.6	$ 10.1	$ 10.7	$ 11.2	$ 15.1	$ 20.6	$ 28.6
(% of Total Payroll)	(16.48)	(14.08)	(14.22)	(14.28)	(14.27)	(15.05)	(16.06)	(17.47)
8. Estimated Benefit Payout	$ 20.2	$ 21.2	$ 22.5	$ 23.8	$ 24.9	$ 33.6	$ 45.7	$ 63.5

* State Contribution equals 51% of projected benefit payments and administrative expenses (excluding refunds).

Appendix 1

Summary of Principal Provisions

1. Participation. Participation in the system is mandatory when a person first becomes a Judge, unless an "Election Not to Participate" is filed by the Judge within 30 days of the date of notification of this option.

2. Member Contributions. All members of the system are required to contribute to the system the following percentage of their salaries:

Retirement Annuity	7.5%
Automatic Annuity Increase	1.0
Survivor's Annuity	2.5
Total	11.0%

A married judge who files an "Election Not to Participate in the Survivor's Annuity, or an unmarried judge is not required to make contributions toward the Survivor's Annuity, in which case the total member contribution is 8.5% of salary.

3. Discontinuance of Contributions. A participant who becomes eligible to receive the maximum rate of annuity (At least 20 years of service credit and age 60 or over) may elect to discontinue contributions and have his or her benefits "fixed" based upon the final rate of salary immediately prior to the effective date of such election. This election, once made, is irrevocable.

4. Retirement Annuity - Eligibility. A judge who has at least 10 years of service may retire upon attainment of age 60. A judge with at least 6 years of service is entitled to an unreduced retirement annuity upon attainment of age 62.

A judge with at least 10 years of service may retire upon attainment of age 55, with the amount of the retirement annuity reduced 1/2 of 1% for each month that the judge is under age 60.

5. Retirement Annuity - Amount. The retirement annuity is determined according to the following formula based upon the final rate of salary

-3 1/2% for each of the first 10 years of service; plus
-5% for each year of service in excess of 10

The maximum retirement annuity is 85% of the final rate of salary.

6. Automatic Increase In Retirement Annuity. Annual automatic increases of 3% of the current amount of retirement annuity are provided. The initial increases is effective in the month of January of the year next following the year in which the first anniversary of retirement occurs.

7. Temporary Total Disability. A member with at least 2 years of service who becomes totally disabled and unable to perform his or her duties as a judge is entitled to a temporary disability benefit equal to 50% of salary payable during the period of disability but not beyond the end of the term of office.

8. Total and Permanent Disability. A member with at least 10 years of service who becomes totally and permanently disabled while serving as a judge is eligible to commence receiving his or her retirement annuity without reduction regardless of age.

9. Survivor's Annuity - Eligibility. A surviving spouse without children is eligible for survivor benefits at age 50 or over provided marriage to the member had been in effect for at least 1 year immediately prior to the member's death.

A surviving spouse with unmarried eligible children of the member is eligible for a survivor's annuity benefit at any age provided the above marriage requirements have been met. When all children are disqualified because of death, marriage or attainment of age 18, the spouse's benefit is suspended if the spouse is under age 50 until the attainment of such age.

Children of the member who are under age 18 or who are dependent because of a physical or mental disability are eligible for survivor benefits.

If the member dies in service as a judge, the member must have at least 1 1/2 years of service credit for survivor's annuity eligibility. If death occurs after termination of service, the deceased member must have at least 10 years of service credit for survivor's annuity eligibility.

10. Survivor's Annuity - Amount. (a) Upon the death of an annuitant, his or her surviving spouse shall be entitled to a survivor's annuity of 66 2/3% of the annuity the annuitant was receiving immediately prior to his or her death.

(b) Upon the death of a judge while in service, the surviving spouse shall receive a survivor's annuity of 66 2/3% of the annuity earned by the judge as of the date of death, or 7 1/2% of the judge's last salary, whichever is greater.

(c) Upon the death of a former judge who had terminated service with at least 10 years of service, his or her surviving spouse shall be entitled to a survivor's annuity of 66 2/3% of the annuity earned by the deceased member as of the date of death.

(d) Upon the death of an annuitant, a judge in service, or a former judge who had terminated service with at least 10 years of service, each surviving child under the age of 18 or disabled shall be entitled to a child's annuity in an amount equal to 5% of the descendent's final salary, not to exceed in total for all such children the greater of 20% of final salary or 66 2/3% of the earned retirement annuity.

(e) Survivor's annuities are subject to annual automatic increases of 3% of the current amount of annuity.

11. <u>Refund of Contributions.</u> A participant who ceases to be a judge may apply for and receive a refund of his or her total contributions to the system, provided he or she is not then eligible to receive a retirement annuity.

A participant who becomes unmarried, either before or after retirement, is entitled to a refund of contribution made for the survivor's annuity.

Appendix 2

Glossary of Terms used in Report

1. Actuarial Present Value. The value of an amount or series of amounts payable at various times, determined as of a given date by the application of a particular set of actuarial assumptions.

2. Actuarial Cost Method or Funding Method. A procedure for determining the actuarial present value of pension plan benefits and for determining an actuarially equivalent allocation of such value to time periods, usually in the form of a normal cost and an actuarial accrued liability.

3. Normal Cost. That portion of the actuarial present value of pension plan benefits which is allocated to a valuation year by the actuarial cost method.

4. Actuarial Liability or Accrued Liability. That portion, as determined by a particular actuarial cost method, of the actuarial present value of pension benefits which is not provided for by future normal costs.

5. Actuarial Value of Assets. The value assigned by the actuary to the assets of the pension plan for purposes of an actuarial valuation.

6. Unfunded Actuarial Liability. The excess of the actuarial liability over the actuarial value of assets.

7. Projected Unit Credit Actuarial Cost Method. A cost method under which the projected benefits of each individual included in an actuarial valuation are allocated by a consistent formula to valuation years. The actuarial present value of benefits allocated to a valuation year is called the normal cost. The actuarial present value of benefits allocated to all periods prior to a valuation year is called the actuarial liability.

Under this method, the actuarial gains (losses), as they occur, generally reduce (increase) the unfunded actuarial liability.

8. Actuarial Assumptions. Assumptions as to future events affecting pension costs.

9. Actuarial Valuation. The determination, as of a valuation date, of the normal cost, actuarial liability, actuarial value of assets, and related actuarial present values for a pension plan.